THE PLOTTER

CLACKAMAS COMPUTER APPLIED
TRAINING SOCIETY
NEWS LETTER
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VOLUME 12   **   NUMBER 3
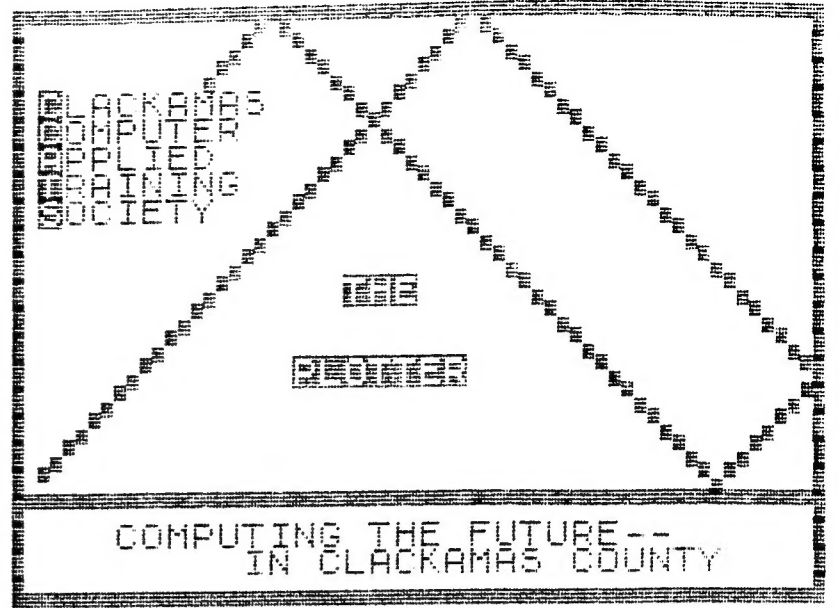******
MARCH   1994

MEETING

The MARCH meeting will be:

on: SUN., MARCH 20 1994

MEETING   2:00 TO 5:00 P.M.
at: Rod Gowen's home
    14784 S. Quail Circle
    Oregon City

WHAT YOU WILL FIND IN THIS ISSUE:

COMPUTING THE FUTURE--
IN CLACKAMAS COUNTY

FROM THE EDITOR'S DESK

This month's newsletter contents includes a nice review of a Jack Dohany series of utilities for working with Larken disk systems. It is nice to know that there is still more information and use being generated for this system so it is far from being dead.

Rod Gowen has been philosophizing in his article, Drifting Away? He makes some good points on the purpose of our newsletter, pointing out the primary purpose of The Plotter as we have construed it over the years. It is indeed very difficult to provide a well-rounded newsletter. There are many months where The Editor really scratches for ideas and material due to the absence of reader input. I can only assume that we must be on the right track if we maintain a list of outside subscribers.

Over several years I have subscribed to MS-DOS programs on disk. In thinking about it I realize that I am not interested in many of the offered programs, or they just are not programmed for my 286 computer. After the subscription runs out I

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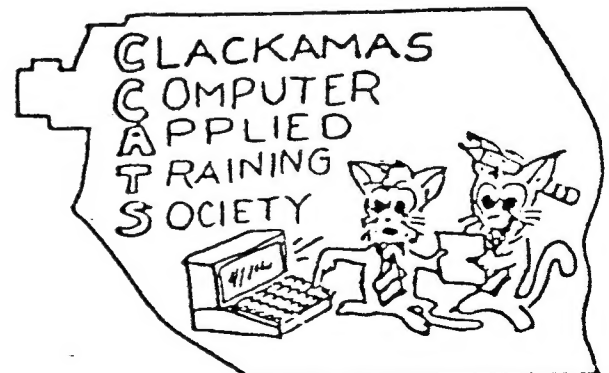
just do not renew. I also note that various sources of software have identical programs, maybe under slightly different names or descriptions.

I have taken the liberty to produce some information on printer terms, point and pitch. I really haven't looked into this before but ran across an interesting statement that got the gray matter working. In doing an article on this subject I hand wrote three different versions, trying to make the information as clear as possible. A practicle application would be to select a font size in points from a sampling, then work out the space more than one line would require (if that is your need). You can also determine how much space would be required for just a single line in a column, such as a subheading, so lines would not be crowded or too open. Something like the double heigh characters I use on the heading for this article. How many points are double high? Maybe a table of information can be developed for this purpose.

DRIFTING AWAY?
by: Rod Gowen

THE PLOTTER was originally produced as a vehicle to dispense news to the membership of CCATS about the meeting time and date as well as to disseminate information about the new and exciting Timex/Sinclair computers. That was over 12 years ago! The purpose of the newsletter has not changed. It is still sent to members of CCATS to inform them of the next meeting time and date. It still informs its readers of any news on the TS computer front when such news is available. All TS articles/reviews/programs that are submitted to the editor are published as soon as possible. The problem is, there is not a lot submitted or encountered in the TS world. We do not believe in reprinting unless it is deemed necessary to get some piece of information out that should not be missed by members and readers.

With a local membership of under 10 and a paid membership of under 15 (both local and out of town) it is hard to come up with enough TS news to fill an 8 page monthly newsletter.

Over the past 12-13 years, the members of CCATS group have shifted to newer technologies as they became available and THE PLOTTER, in order to serve its members needs, has shifted to accommodate newer types of computers as well. This is not a sign that we are abandoning the TS computer line. It is our way of keeping up with the world of computing and, at the same time, showing our members that we can be here for them no matter what kind of computer they are using.

Many, if not most, of our members own both IBM clones and TS computers. Some, like our editor, try hard to convert TS programs to the IBM clone so as not to lose touch. Others have written TS emulators that allow the IBM clone users to load and run older favorites from the world of TS. All of this is done in an effort to keep in touch with our computing "roots", the world of Timex/Sinclair.

My reason for writing this article is the fact that we have received some letters from time to time complaining about the fact that THE PLOTTER is "drifting away from the TS computer line". NOT SO! We will continue to support them until our paid membership tells us that they no longer wish us to do so!

So, for all of you readers who are worried about the fact that more articles are appearing in THE PLOTTER for the IBM clone users, do not fear! We will not abandon you! As long as you want and contribute items for the TS computers, we will continue to print them.

REDWOOD GOODIES
By: Bill Dunlop

I just got "something new" for my 2068 programming desk! Jack Dohany has released several excelent LarKen DOS related machine code routines to the public domain.

One of these RELOCATABLE (!) routines, UTIL1.CR, will report whether your current disk is write-protected or not and even when there is no disk in the drive. It reports if a given file exists. It gives the number of the current drive and the number of formatted tracks and the number free. All of this in 255 bytes.

UTIL2.CR checks the entire disk for CRC errors and reports the total. U2 also will check to see if a specific file exists and if it does will make the header data available to BASIC. This one has a length of 200 bytes and it too is relocatable.

FULCAT.CR will give a much more informative catalog with the file name, its start location and its length without all of the disks other statistics such as disk name and other messages.

BREAK.CR prevents program interuption when "N" is pressed at the "Scroll?" prompt. Great for use with those longer catalogs. Plus, this one can be turned off and on. 80 bytes of relocatable code.

So, where does one put one (or all) of these little gems, you may ask. Jack thought of that too. Any where you want (OK, watch out for block 4!) or use GENREM.CR and put it into your BASIC line 1 (or 0) with this REM expanding routine. This one is 100 bytes that you can use and then reuse the space for more programming as you go on.

His PD disk also includes two DEMO programs. These appear, in function, to be identical, however; the way that the machine code is stored is different as reading the LISTing will show. DEMO2.BA uses the GENREM.CR routine to expand the line 0 and stores all 800 bytes of these goodies there.

All of these come with good, on disk as M-script files, documentation which includes source files and notes. (A practice I applaud and recommend to others.)

AND, these work with the Spectrum mode too!

Those interested in receiving a copy of this PD disk should contact Jack Dohany or RMG Enterprises (where I got mine.)

PITCH & POINT
Dick F. Wagner

Pitch & points, as used here, pertain to printing. The following has been garnered from various sources, plus additions of my own experiences. Pitch is usually understood to be be the number of repeats in a given length, such as 20 threads per inch on a bolt. In our case we are interested in the number of characters in one inch of printed line. It is measured from the beginning of a letter, ie: left side to the corresponding side of the last letter.

Most commonly used seems to be 10 and 12 characters per inch but the user must operate with what the printer designer has provided. Pica is considered to be a certain design of character that produces a pitch of 10 characters per inch (cpi). Other common ones are Elite with 12 cpi, and compressed variously providing 15-17 cpi. It should be noted that cpi includes a certain amount of space for each character and a certain amount of space between characters. Normal design

provides a specific mount for each, no matter if the actual character varies, as m and i. Using proportional printing deletes these fixed spaces and makes characters and spaces variable.

While pitch applies to a line, point is a unit of measure that is used to describe the vertical size of a character group or font. It is measured from a certain reference point of a character to the corresponding point on the line above or below the reference line. Like a line pitch it is best to include the number of lines in an inch or more. This measurement includes space between characters vertically as well as the characters.

Now it should be obvious that pitch and point measurements are made in such a way that character dimensions are meaningless when designing a printed page. Trial and error may be the order if one or more large characters are to be used. For instance, 20 point type should fit between 2 lines of 10 point type.

Normally, single column printing produces no problem for varying point type. Some readers may have noticed that our 2 column printing may not be in alignment across as the points usually are not constant when large type is used for subtitles. This might add in a half of a line, like changing 10 point to 15 within a column.

Mathamatics are involved when working with points and pitches. Some time back in the stone age of printing it was decided that there had to be a relation between pitch and point. A point by definition is 1/72 inches. A magic number of 120 ties these two measurements together. Just remember that 120/pitch = points and 120/points = pitch. So a 12 point font will normally use 10 cpi and a compressed font of 15 cpi will probably be 8 points. So 8x(1/72)=0.111 inches and the number of lines per inch would be 9.

I have a scale called a type gauge that has scales for 4, 5, 5 1/2, 6,7,8, Pica, 9, 10,11,13, 14,15, and Agate. Agate calculates to be 5.14 point which should give about 23.35 cpi.

The following curve depicts the relation between pitch and point. One might wonder where on the curve pitch equals points. Well, it is the sq. root of 120, or 10.95. A look at my little curve will show the curve just missing the 10 marks which happen to be 10 pixels long. There is an article in this issue that gives the program to produce this curve.
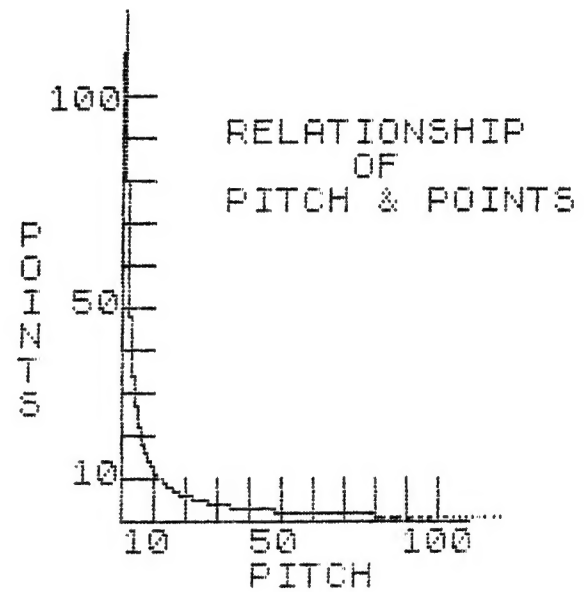
PITCH & POINT GRAPH
Dick F. Wagner

The article covering pitch and point includes a small graph that illustrates the relationship of pitch and point. A point is a specific dimension of 1/72 inches while pitch is a variable that is a count of characters per line inch. Point is a verticle measurement such as the normal base line of a row of characters to the corresponding base line of another line in the printed column. In other words it takes at least 2 lines to measure points of a font. The design of fonts, the shape of characters, seems to include how the characters will be printed in lines. When a font is described as being 10 points, this means the characters will fit properly in lines that are 120/10*1/72=0.1667" spacing. This gives 6 lines per inch.

Because the various dimensions involved in font, caps, lower case, and desenders, how a font is designed to be used seems to be a better approach to measurement than to try to use only the physical dimension of a character.

The graph produced by the following program is the relation between pitch and points as covered in the mentioned article. As points increase in size pitch decreases (fewer characters per line inch). Consider a font of 72 points. The pitch is 120/72 or 1.67 characters per inch wheras a 7 point font is 120/7 or 17 characters per line inch (compressed font).

```
    5 REM relationship of printin
g pitch and points by D. F. WAGN
ER 2/94
   10 PLOT 40,40: DRAW 110,0
   20 PLOT 40,40: DRAW 0,110
   30 PRINT AT 17,5;"10";AT 17,10
;"50";AT 17,16;"100";AT 18,10;"P
ITCH"
   40 PRINT AT 4,2;"100";AT 10,3;
"50";AT 15,3;"10"
   45 PRINT AT 8,1;"P";AT 9,1;"O"
;AT 10,1;"I";AT 11,1;"N";AT 12,1
;"T";AT 13,1;"S"
   47 PRINT AT 5,9;"RELATIONSHIP"
;AT 6,14;"OF";AT 7,9;"PITCH & PO
INTS"
   50 FOR n=1 TO 120
   55 LET a=n+40
   60 IF n=100 THEN PLOT a,40: DR
AW 0,10: PLOT 40,a: DRAW 10,0
   70 IF n=90 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
   80 IF n=80 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
   90 IF n=70 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
  100 IF n=60 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
  110 IF n=50 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
  120 IF n=40 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
  130 IF n=30 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
  140 IF n=20 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
  150 IF n=10 THEN PLOT a,40: DRA
W 0,10: PLOT 40,a: DRAW 10,0
  200 NEXT n
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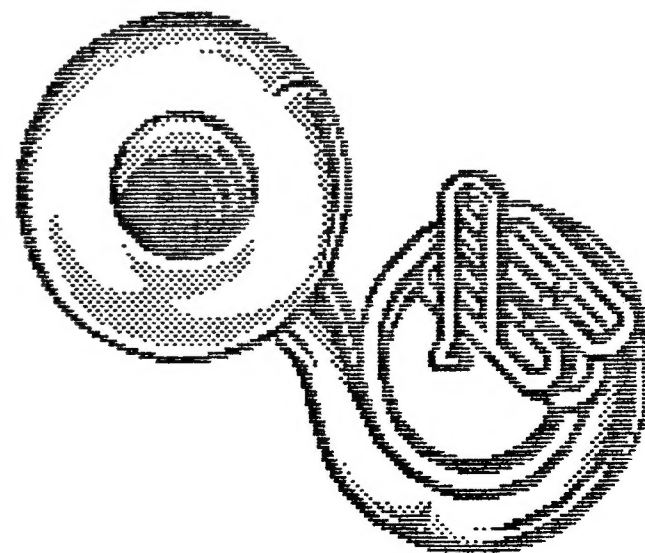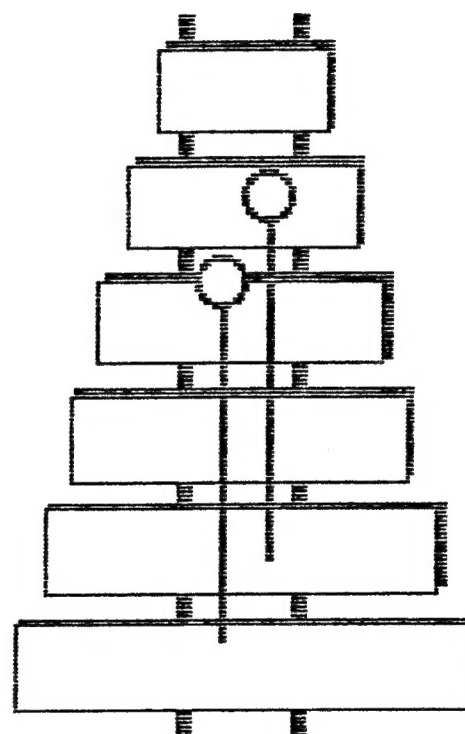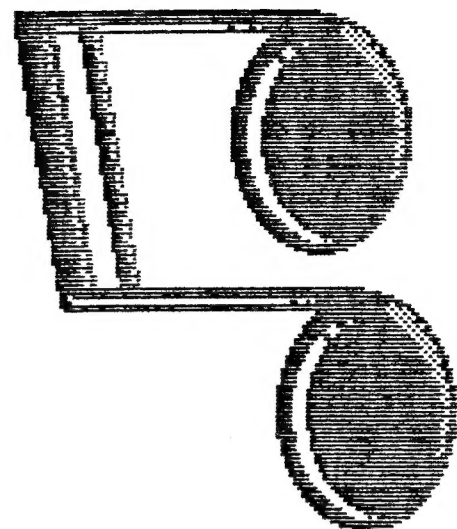
```
210 FOR n=1 TO 120 STEP 1/50
220 LET x=120/n
230 LET y=120/x
240 PLOT x+40,y+40
250 NEXT n
```

Music Clip Art

TWELVE COINS
Dick F. Wagner

Last month we had a puzzle about identifying one of 12 coins that might be conterfeit, all of the coins being of the same denomination and the same weight except if there is a conterfeit coin it is either lighter or heavier. The suggestion was that we would print a program from a reader, if such was offered. We did get a response from Donald Lambert (ZXir QLive Alive!) with an explanation of how he would determine the answer, but not a program. So, here is the program as given in the book, Brain Games for Kids & Adults for Apple II. As this is in GWBASIC, I will attempt to convert it to Sinclair BASIC for next month.

```
110 LET C=1
115 LET N=INT (5*RND(1)): LET N=N+1
120 LET F=INT (12*RND(1)): LET F=F+ASC("A")
135 LET B$=""
140 PRINT:PRINT "ONE OF 12 DIMES HAS A DIFFERENT WEIGHT"
145 PRINT:PRINT "THAN THE REST. FIND THE ODD DIME BY "
150 PRINT:PRINT "WEIGHING ";N;" AGAINST ";N;"."
155 PRINT:PRINT "WE REPRESENT THE COINS BY LETTERS A TO L"
160 PRINT: PRINT "TYPE THE COIN LETTERS A,B,C,...L THAT"
165 PRINT: PRINT "YOU WISH TO COMPARE  "
168 PRINT: INPUT A$
170 LET I=0
180 LET W=1
190 IF A$ = "" THEN GOTO 190
205 FOR J=1 TO J: IF A$= MID$(B$,J,1) THEN 190
206 NEXT J
207 LET B$=B$+A$
211 IF I=N-1 THEN PRINT " ";
220 LET I=I+1
230 IF I<2*N THEN 190
240 REM : LOCATE 1,1
250 IF W=1 THEN PRINT " UNEQUAL"
260 IF W=0 THEN PRINT " EQUAL"
270 PRINT "GIVE UP? PRESS Y OR N"
280 IF A$="" THEN 280
290 IF A$="N" THEN 350
300 PRINT: PRINT "YOU HAD ";C; " MOVES. THE COIN WAS ";
310 INPUT B$
320 IF ASC(B$)=F THEN PRINT "CORRECT"
330 IF ASC(B$) < > F THEN PRINT "WRONG! THE COIN IS "; CHR$(F)
340 GOTO 370
350 LET C=C+1
360 GOTO 130
370 PRINT: PRINT "AGAIN? PRESS Y OR N";
380 IF A$= "Y" THEN 380
390 IF A$="Y" THEN 110
400 PRINT: END
```

RMG UPDATE NEWS FOR MARCH 1994
VOLUME 6, NUMBER 3
** RMG NEWS **

Winter is almost gone and it will soon be time to get started in the yard and make plans for summer. It's not like it used to be in regard to our computers though. We no longer let them sit through the summer and gather dust. With today's ever-growing computer literacy push, we cannot afford to let even a couple of months go by or we seem to be lost when we get back to it. The business is changing so rapidly and radically that we need to stay current. Being computer literate is perhaps one of the most important aspects of a well-rounded education today. Computers touch EVERY aspect of our daily lives. We, at RMG, will do our best to help you in any way we can. If you have questions, feel free to ask them. If we do not know the answer, we will find it for you.

DOHANY PD DISK--is now available from RMG! Jack Dohany has put a LARKEN UTILITY disk into the public domain and given RMG the OK to distribute it. It will be available on request for the normal $5 per disk shareware/pd price (including postage). Be sure to tell us the format you require. (5.25"/3.5", 40 track/80 track, single or double sided). We have quite a few PD and shareware disks available. For a free list, send a #9 S.A.S.E..

As you can see by the flyers, we have had a few sales since last time and so we are sending out the changed sheets. We are also going to extend the sale flyers that we sent out in mid-January until mid-March. If there is anything on the clearance sheets that you want, just be sure to order before 3/15/94.

RMG UPDATE NEWS is, we hope, an important part of your information highway when it comes to keeping up with that is new and exciting in the TS world as well as in computing in general. If so, be aware that there is a point at which writing and publishing these monthly flyers becomes less than cost-effective. This is more than a hobby with me and, if I cannot make sales, I will have to find another way to pay the bills and that may require me to give up this endeavor entirely. I would hate to see that happen. We are on a subscription drive at this time and would like to see as many of our former readers and as many new ones as we can get to send in the 12 S.A.S.E.s for these flyers to make it seem worthwhile for us to continue to work for you.

If you have a bit of computer news that you think may be of interest to the general readership of these flyers, why not send it along and we will pass it on? There are still quite a few good newsletters being published by various sources and I only wish that I had the time to read each one cover to cover but I no longer can. If I did, I am sure that there would be a lot of things that I could pass on. As I said before, there is just too much going on to keep track of it all!

Take care 'till next time!

KEEP WATCHIN' FOR MORE NEWS! Rod Gowen, Owner, RMG Enterprises
14784 South Quail Grove Circle, Oregon City, OR 97045
503/655-7484 8AM-6PM PT * FAX/VOICEMAIL: 503/655-4116 24 HRS

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—NOTICE—

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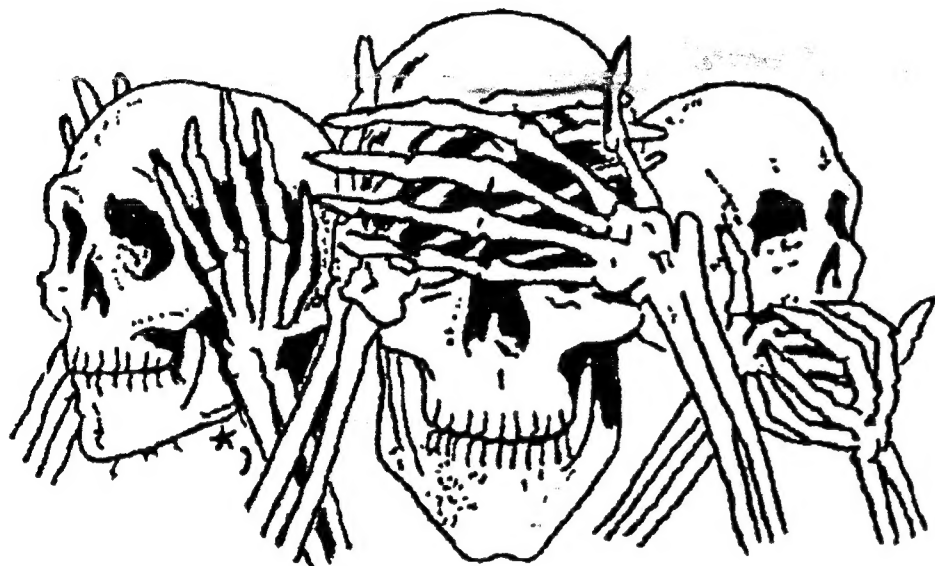
HEAR NO EVIL   SEE NO EVIL   SPEAK NO EVIL

LEFT OVER FROM THE OCTOBER ISSUE

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(place label here)

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